UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

Hypertension guidelines in 2014 – JNC 8 vs all the rest…

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Objectives

- Brief review of Hypertension stats
- Review NHLBI new strategy for CDV disease prevention and education
- Review highlights and controversies of JNC 8 guidelines
- Review AHA-ACC-CDC advisory recommendations

We have been steadily improving…

NHANES surveys	1976-88	1988-91	1991-94	1999-2000	2007-2010
Awareness of Hypertension (%)	51	73	68	70	81
Those with HTN receiving treatment (%)	31	55	54	59	75
Controlled to BP < 140/90 (%)	10	29	27	34	52

…we can do better

Of the 36 million people with uncontrolled HTN:

- Nearly three out of four people visited a healthcare professional at least twice in the prior year.
- 89 % have a usual source of healthcare
- 85 % have some form of insurance

Frieden T. JAMA 2014;311(1)

NIH new approach in 2013

"Plan to refocus our health education agenda on our core mission of knowledge generation and synthesis by supporting and producing rigorous systematic reviews that inform clinical practice guidelines."*

- i.e. NHLBI will no longer produce clinical practice guidelines focused on management of risk factors for cardiovascular disease.

*Refocusing the Agenda on Cardiovascular Guidelines: An Announcement from the National Heart, Lung, and Blood Institute. June 19, 2013
http://circ.ahajournals.org/content/early/2013/06/18/CIRCULATIONAHA.113.004587

Passing the baton…

Guidelines released by AHA/ACC in 2013

- Treatment of blood cholesterol in adults.
- Assessment of cardiovascular risk.
- Lifestyle management to reduce CV risk.
- Management of overweight and obesity in adults

Management of High Blood pressure in adults???

Controversy with JNC-8 writing group

- Declined to partner with AHA/ACC
- Published recommendations in JAMA Dec ‘13
  - Without sponsorship or endorsements
- Five members of 18 person writing group published a minority opinion in Annals of IM, Jan 2014
- AHA noted some “reservations” with the new guidelines. … expect “new” guidelines in 2015

Plethora of HTN guidelines

- European Society of Hypertension Jun 2013
- American Society of Hypertension (ASH) in conjunction with the International Society of Hypertension (ISH), guidelines Dec 2013
- AHA-ACC-CDC scientific advisory Nov 2013

JNC 8: 9 recommendations

Based on critical review of high quality randomized clinical trials.

Classification of recommendations:

- (A) Strong Recommendation: There is high certainty based on evidence that the net benefit is substantial.
- (B) Moderate Recommendation: There is moderate certainty based on evidence that the net benefit is moderate to substantial.
- (C) Weak Recommendation: There is at least moderate certainty based on evidence that there is a small net benefit.
- (E) Expert Opinion ("There is insufficient evidence or evidence is unclear or conflicting, but this is what the committee recommends.") Net benefit is unclear. Balance of benefits and harms cannot be determined because of no evidence, insufficient evidence, unclear evidence, or conflicting evidence, but the committee thought it was important to provide clinical guidance and make a recommendation. Further research is recommended in this area.

JNC 8, JAMA 2014; 311(5)

#1

In patients 60 years or over, start treatment in blood pressures >150 mm Hg systolic or >90 mm Hg diastolic and treat to under those thresholds.

(Strong Recommendation – Grade A)

There is high certainty based on evidence that the net benefit is substantial.

JNC 8, JAMA 2014; 311(5)

Corollary to #1

In the general population aged60years, if pharmacologic treatment for high BP results in lower achieved SBP (e.g. <140mmHg) and treatment is well tolerated and without adverse effects on health or quality of life, treatment does not need to be adjusted.

(Expert Opinion – Grade E)

JNC 8, JAMA 2014; 311(5)

#2

- In the general population <60 years, initiate treatment to Lower BP at DBP≥90mmHg and treat to a goal DBP< 90mmHg.

- (For ages 30-59 years, Strong Recommendation – Grade A);
- (For ages 18-29 years, Expert Opinion – Grade E)

JNC 8, JAMA 2014; 311(5)

#3

In the general population <60 years, initiate pharmacologic treatment to lower BP at SBP≥140 mmHg and treat to a goal SBP <140 mmHg.

(Expert Opinion – Grade E)

JNC 8, JAMA 2014; 311(5)

#4 and 5

In the population aged > 18 years with **CKD or DM,** initiate pharmacologic treatment to lower BP at SBP≥140 mmHg or DBP≥90 mmHg and treat to goal SBP<140mmHg and goal DBP<90 mmHg.

(Expert Opinion – Grade E)

JNC 8, JAMA 2014; 311(5)

#6 and 7

- In nonblack patients with hypertension, initial treatment can be a thiazide-type diuretic, CCB, ACE inhibitor, or ARB
  - (Moderate Recommendation– Grade B)
- In the general black population, including those with DM, initial therapy should be a thiazide-type diuretic or CCB.
  - (For general black population: Moderate Recommendation –Grade B;
  - For black pts w/DM: Weak Recommendation – Grade C)

JNC 8, JAMA 2014; 311(5)

#8

- In patients >18 years with CKD, initial or add-on therapy should be an ACE inhibitor or ARB, regardless of race or diabetes status.
  - (Moderate Recommendation – Grade B)

JNC 8, JAMA 2014; 311(5)

#9

- If goal BP is not reached within a month of treatment, increase the dose of the initial drug or add a second drug from one of the classes in recommendation 6 (thiazide-type diuretic, CCB, ACEI, or ARB).
- If goal BP cannot be reached with 2 drugs, add and titrate a third drug from the list provided.
- Do not use an ACEI and an ARB together in the same patient.
- If goal BP cannot be reached using only the drugs in recommendation 6, antihypertensive drugs from other classes can be used.
- Referral to a hypertension specialist may be indicated for patients in whom goal BP cannot be attained using the above strategy.

(Expert Opinion – Grade E)

JNC 8, JAMA 2014; 311(5)

Major changes from JNC 7

- Attempted focus on evidence based recommendations
- Higher target SBP for pts over 60 yo
  - Limited data to support either 150 or 140 mmHg
- Removed special lower target BP for those with CKD or DM
- Liberalized initial drug choices

Problems

- Lack of data to identify the optimum BP for various populations.
- Varying expert opinions based on same data
- Raising target BP in highest risk group for CDV disease (age > 60) may lead to greater events
- “speed-limit” effect

Common ground

Treat Octogenarians less aggressively

With target BP < 150/80

Indapamide (as well as Chlorthalidone used in SHEP trial) are more effective thiazides at lowering BP than HCTZ.

HYVET

Systolic Hypertension in the very elderly (80+)

- 3845 pts indapamide 1.5 mg qday vs placebo
  +/- ACE-I. Goal SBP < 150/80

At 2 yrs, mean decrease BP 15.0/6.1 mmHg

21% decreased all cause mortality

39% decrease in stroke-related death

64% decrease in fatal +nonfatal CHF

34% decrease in CDV events

Trend towards reduced or delayed dementia.

Beckett NS, N Engl J Med 2008;358:1887-98

AHA-ACC-CDC Advisory

Recommend:

- Use of treatment algorithms based on clinical guidelines
- Broad-based efforts to improve hypertension awareness, treatment and proportion of patients treated and controlled.
- Principles for an effective algorithm:
  - updatable and feasible
  - consider the costs of diagnosis, monitoring, and treatment;
  - can be formatted easily within a team approach to healthcare
  - Never be used to counter the treating physician's best clinical judgment.

Go AS, A science advisory from the AHA, ACC and CDC. Hypertension Nov 2013

AHA-ACC-CDC recommended SBP goals for both patients older and younger than 80 yo are in agreement with guidelines from:
Am Society of HTN, International Society of HTN
Canada, Europe, and the UK

AHA-ACC-CDC Advisory

Recommend:

- BP goal of ≤ 139/89 mmHg
- Stage I HTN (SBP 140-159 or DBP 90-99 mmHg)
  - Lifestyle modifications
  - +/- Thiazide diuretic
- Stage II HTN (SBP > 160 or DBP > 100 mmHg)
  - Thiazide + (ACE-I or ARB) or + Calcium channel blocker
- Titrate doses if not at goal or add different drug class

Go AS, A science advisory from the AHA, ACC and CDC. Hypertension Nov 2013

Stayed tuned for more HTN guidelines in 2015…